

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot
Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION NOVEMBER - 2017

M.Sc. Biotechnology

16PBTCC10 - IMMUNOLOGY

Duration of Exam – 3 hrs

Semester – III

Max. Marks – 70

Part A (5x2= 10 marks)

Answer **ALL** questions

1. Write any two differences between B and T lymphocytes.
2. Define cross reactivity with suitable example.
3. What is pleiotropy in reference to cytokines?
4. Define MHC restriction.
5. Write any two disadvantages of DNA vaccines..

Part B (5x5 = 25 marks)

Answer **ALL** questions

- 6a. Mention any five differences between innate and acquired immunity with suitable examples.
- OR**
- 6b. Write any three differences between primary and secondary immune organs. Draw the labeled diagram of spleen and mention the function of its important components.
- 7a. What are those characteristics, which influence immunogenic potency of an antigenic molecule? Describe in short.
- OR**
- 7b. Define and differentiate between: i) agglutination and precipitation; ii) affinity and avidity
- 8a. Write down the steps or mechanism of signaling in B cell activation, following the binding of antigen to B cell receptors.
- OR**
- 8b. Explain the T cell deactivation mechanism. What will happen if T cells are not deactivated?
- 9a. What is difference between allograft and autograft? Describe the mechanism of chronic graft rejection.
- OR**
- 9b. How the class I and class II MHC molecules differ from each other? Explain with suitable diagram.
- 10a. What is passive immunization? Write advantage and disadvantages of live and attenuated vaccines.
- OR**
- 10b. Write short note on recombinant vaccines.

Part C (5X7 = 35 marks)

Answer **ALL** questions

11a. Diagrammatically explain classical pathway of complement activation.

OR

11b. Write short note on: i) T - Lymphocytes; ii) Chemical barriers of immunity

12a. Draw the labeled diagram of immunoglobulin molecules. Compare the five major classes of immunoglobulin in a tabular form.

OR

12b. How the engulfed antigens are presented by macrophages or antigen presenting cells? Explain with suitable diagram.

13a. Describe various stages of B cell developments.

OR

13b. Contrast upon the different mechanism through which diversity in naive B cell is generated

14a. What is HLA typing? Describe methods of HLA typing

OR

14b. Write short note on: (a) peptide binding cleft of Class I and Class II MHC molecules; (b) Type I hypersensitivity reactions.

15a. Define and differentiate between primary and secondary immunodeficiency diseases. Give a detailed note on SCID.

OR

15b. Write short note on: i) HIV's mechanism of immunosuppression and ii) Multiple sclerosis.
